

What is claimed is:

1           1. An image processing apparatus for conducting edge  
2 enhancement processing on an original image, comprising:  
3           an enhancement amount calculation unit for calculating  
4 a density enhancement amount for each edge pixel of the original  
5 image, the edge pixel being a pixel in an edge area in the image;  
6           an enhancement amount processing unit for correcting the  
7 density enhancement amount for each edge pixel in a manner to  
8 reduce variations in the density enhancement amounts in the  
9 overall edge area;  
10          a density processing unit for correcting a density of each  
11 edge pixel of the original image in a manner to reduce variations  
12 in densities in the overall edge area; and  
13          a density calculation unit for calculating an enhanced  
14 density of each edge pixel from the corrected density and the  
15 corrected density enhancement amount.

1           2. The image processing apparatus of Claim 1, wherein  
2           the enhancement amount processing unit changes the density  
3 enhancement amount for a target pixel in the edge area to a greatest  
4 edge enhancement amount in a predetermined area that includes  
5 the target pixel and edge pixels surrounding the target pixel.

1           3. The image processing apparatus of Claim 1, wherein  
2           the density processing unit changes the density of a target  
3 pixel in the edge area to a greatest density in a predetermined

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4 area that includes the target pixel and edge pixels surrounding  
5 the target pixel.

1 4. The image processing apparatus of Claim 1, wherein  
2 the enhancement amount processing unit changes the density  
3 enhancement amount for a target pixel in the edge area to a greatest  
4 edge enhancement amount in a predetermined area that includes  
5 the target pixel and edge pixels surrounding the target pixel;  
6 the density processing unit changes the density of the  
7 target pixel to a greatest density in a predetermined area that  
8 includes the target pixel and edge pixels surrounding the target  
9 pixel; and  
10 the density calculation unit calculates the enhanced  
11 density of each edge pixel by adding the changed enhancement  
12 amount and the changed density.

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1 5. An image forming apparatus for forming an image,  
2 comprising the image processing apparatus of Claim 1, wherein  
3 the image is formed based on image data on which edge  
4 enhancement processing has been conducted by the image processing  
5 apparatus.

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1 6. An image processing apparatus for conducting edge  
2 enhancement processing on image data, comprising:  
3 a judgment unit for judging whether a target pixel is an  
4 edge pixel which is in an edge area, based on the image data;  
5 an enhancement amount calculation unit for calculating

6 first data expressing an edge enhancement amount for the target  
7 pixel based on the image data;

8 a first processing unit for changing a value of the first  
9 data for the target pixel to a greatest value among first data  
10 of a) the target pixel and b) a plurality of pixels surrounding  
11 the target pixel;

12 a second processing unit for changing a value of the image  
13 data of the target pixel to a greatest value among image data  
14 of a) the target pixel and b) a plurality of pixels surrounding  
15 the target pixel; and

16 an addition unit for adding the changed first data to the  
17 changed image data of the target pixel that is judged to be an  
18 edge pixel by the judgment unit, and for outputting the resulting  
19 data.

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1 7. An image forming apparatus for forming an image,  
2 comprising the image processing apparatus of Claim 6, wherein  
3 the image is formed based on the image data on which edge  
4 enhancement processing has been conducted by the image processing  
5 apparatus.

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1 8. An image processing method for conducting edge  
2 enhancement processing on an original image, the method  
3 comprising steps of:

4 calculating a density enhancement amount for each edge  
5 pixel of the original image, the edge pixel being a pixel in  
6 an edge area in the image;

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7 increasing the density enhancement amount for each edge  
8 pixel in a manner to reduce variations in the density enhancement  
9 amounts in the overall edge area;

10 increasing density of each edge pixel of the original image  
11 in a manner to reduce variations in densities in the overall  
12 edge area; and

13 calculating enhanced density of each edge pixel by adding  
14 the increased density enhancement amount to the increased density.

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1 9. The image processing method of Claim 8, wherein  
2 in the step of increasing the density enhancement amount  
3 for each pixel, the density enhancement amount for the target  
4 pixel is changed to a greatest density enhancement amount in  
5 a predetermined area that includes the target pixel and edge  
6 pixels surrounding the target pixel.